SECTION 2

SERVICE INFORMATION

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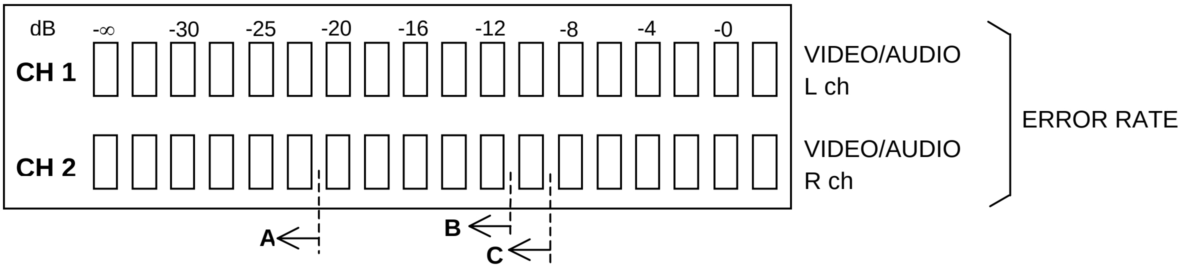
1. Error Rate Confirmation Procedure

The error rate is displayed on the AUDIO LEVEL METER in Service menu mode. (When enters in Service men mode, the AUDIO LEVEL METER changes into the error display mode automatically.)

CH1 indicator ON : Video Error Rate display mode.
CH2 indicator ON : Audio Error Rate display mode.

Video and Audio Error Rate display mode can be changed by press Audio Output Select button



When confirm the error rate, please refer to specification as indicated as below, then please set the some items on Service menu follow the indicated as below table.

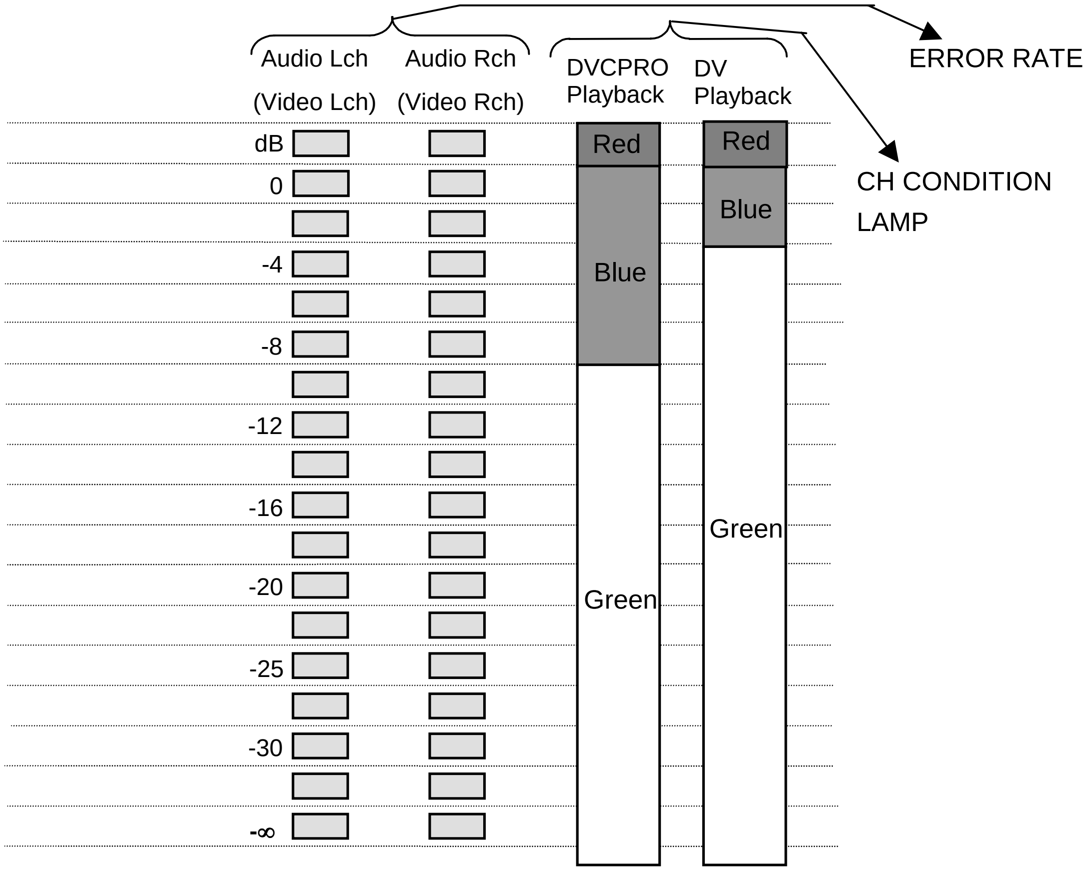
<<Specification of Error Rate>>

	Mode	Specification of Error Rate
DVCPRO (PB)	DVCPRO (PB Head) Alignment Tape Playback	Under the “A” position at Level Meter
DVCPRO (RP)	DVCPRO (RP Head) Alignment Tape Playback	Under the “B” position at Level Meter
DV (R/P)	DV (RP Head) Alignment Tape Playback	Under the “C” position at Level Meter

<<Setting of Service Menu>>

MENU	DVCPRO (PB Head Playback)	DVCPRO (RP Head Playback)	DV Playback
B11 : ERROR MODE	FAST	FAST	FAST
B05 : PB HEAD	PB H	RP H	RP H
B03 : VITERBI	ON	ON	ON

CH CONDITION Comparison



2. Service Menu Information

< To transfer from normal mode to Service Menu mode >

(1) Set the bit 2 of DIP SW60902 on the AV SYSCON P.C.Board to ON position.

(2) Set the [LOCAL / MENU / REMOTE] select switch on the Front Panel to “MENU” position, then Main menu of Service menu appeared on the screen as indicated as below.

<Main Menu>

```
          SERVICE-MENU
             No. A00

   *A00 :  SERVO ADJUST
    B00 :  MODE SELECT
    C00 :  REC ADJUST
    D00 :  PB ADJUST
    E00 :  EQ ADJUST
    F00 :  VIDEO ADJUST
    F80 :  TBC ADJUST
    END
```

(3) Move the star mark “*” by [UP] (FF) or [DOWN] (STOP) button on the front panel for select the each Sub menu item.

(4) Press the SET button, then open the Sub-menu follow the selected item (A00 to F80) on the Main menu.

(5) For change the value or setting, press the [DATA+] (PAUSE) or [DATA–] (PLAY) button.

(6) Set the [LOCAL / MENU / REMOTE] select switch on the Front Panel to “LOCAL” or “REMOTE” position, then escape from Service menu.

The contents of each “Sub menu” which are described on behind page. And the Counter Display is displayed selected number and setting number as indicated as below (Selected Number and Setting Number described on behind page).

A01—0207

Selected Number ↗ ↖ Setting number

< Key function for the Service Menu >

[LOCAL/MENU/REMOTE]	1) Set “MENU” position, then move to Service menu mode (it have condition bit 2 of DIP SW60902 on AV SYSCON P.C.Board to ON position)
	2) Set “LOCAL” or “REMOTE” position during Service Menu mode, then escape from Service Menu.
[UP]	1) Move the cursor “*” for select the each items (the cursor move to down direction).
	2) Operated FF function originally if press [END] +[UP] button.
[DOWN]	1) Move the cursor “*” for select the each items (the cursor move to up direction).
	2) Operated STOP function originally if press [END] +[DOWN] button.
[MOVE] + [UP]	1) Move the cursor “*” to next page (Page up function).
[MOVE]+[DOWN]	1) Move the cursor “*” to behind page (Page down function).
[SET]	1) Move to Sub-menu from Main menu.
	2) Operated REC function originally if press [END] +[SET] button.
[MOVE]+[SET]	1) Move to Main menu from Sub-menu.
[DATA+]	1) Increase the adjustment value or select the selecting item.
	2) Operated PAUSE function originally if press [END] +[DATA–] button.
[DATA–]	1) Decrease the adjustment value or select the selecting item.
	2) Operated PLAY function originally if press [END] +[DATA–] button.
[BIGIN]	1) Execute the PG Shifter adjustment
[END]	1) Change function of the Key (REW, STOP, FF, PLAY, PAUSE, REC) by press [END] +”Operation key” on Service mode.
[AUDIO OUTPUT SELECT]	1) Change the display of Error rate, VIDEO or AUDIO on Audio Level Meter.
	2) Select the AUDIO Output signal originally, if press [END]+ [AUDIO OUTPUT SELECT] button.

Contents of Sub-menu

<<A00: SERVO ADJUST>>

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
A01	T OFFSET	0000 | **0200** | 0255	-128 | **72** | 127	Torque Command Offset Adj. of T REEL	
A02	S OFFSET	0000 | **0200** | 0255	-128 | **72** | 127	Torque Command Offset Adj. of S REEL	
A03	T TORQUE	0000 | **0128** | 0255	-128 | **0** | 127	Correct the offset value of T REEL MOTER DRIVE	
A04	S TORQUE	0000 | **0128** | 0255	-128 | **0** | 127	Correct the offset value of S REEL MOTER DRIVE	
A05	TENSION OFST	0000 | **0213** | 0255	-128 | **85** | 127	Torque Command Offset Adj. of TENSION OFFSET	
A06	PG SFTR RISE	0000 | **1024** | 4095	0 | **1024** | 4095	(RISE display) PG SHIFTER AUTO ADJ (FALL display).	
A07	PG SFTR FALL	0000 | **1024** | 4095	0 | **1024** | 4095		

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
NO.	Name	No.	Display		
A08	RP GAIN	0000 | **0128** | 0255	-128 | **0** | 127	LISTA SENSITIVITY Adj. (RP HEAD) for DVCPRO	
A09	RP LINEAR			LISTA LINEARITY Measurement (RP HEAD) for DVCPRO	
A10	PB GAIN	0000 | **0128** | 0255	-128 | **0** | 127	LISTA SENSITIVITY Adj. (PB HEAD) for DVCPRO	
A11	PB LINEAR			LISTA LINEARITY Measurement (PB HEAD) for DVCPRO	
A12	DV GAIN	0000 | **0128** | 0255	-128 | **0** | 127	LISTA SENSITIVITY Adj. (RP HEAD) for DV.	
A13	DV LINEAR			LISTA LINEARITY Measurement (RP HEAD) for DV	
A14	MOTOR CHECK	**0000** 0001 0002 0003 0004	**OFF** CAPS. DRUM REEL REEL	Check the motor operation.	
A15	DVCAM ENA	0000 **0001**	OFF **ON**	SELECT THE DVCAM FORMAT CASSETTE	

<<B00: MODE SELECT>>

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
B01	REC DATA SEL	**0000** 0001 0002	**NORMAL** CW CW/4	SELECT THE RECORDING DATA	
B02	ECC	**0000** 0001 0002 0003	**ALL ON** INR ON OTR ON AL OFF	ERROR CORRECTION INNER ON/OUTER ON ERROR CORRECTION INNER ON/OUTER OFF ERROR CORRECTION INNER OFF/OUTER ON ERROR CORRECTION INNER OFF/OUTER OFF	
B03	VITERBI	**0000** 0001 0002	**AUTO** MANUAL OFF	VITERBI OPERATION ON/OFF	
B04	CONCEAL	**0000** 0001	**ON** OFF	ERROR CONCEALMENT ON ERROR CONCEALMENT OFF	
B05	PB HEAD	**0000** 0001	**PB** R/P	FORCED PB HEAD PLAYBACK FORCED RP HEAD PLAYBACK	
B06	TRACKING	**0000** 0001	**ATF** CTL	SELECTION OF TRACKING CONTROL MODE *This function is only active on the service Menu mode.	
B07	MANUAL TRACK	0000 | **0128** | 0255	-128 | **0** | 127	" IN CASE OF SELECT THE CTL MODE ON ABOVE ITEM B06, TRACKING VALUE IS ADJUSTABLE" *TRACKING VALUE RANGE DATA 0 - 116 : RELATIVE TO 1 TRACK THEREFORE 0 TO 127 IS RELATIVE TO JUST OVER 18 um	
B08	VTB A/2	0000 | **0031** | 0063	0 | **31** | 63	SET VALUE OF A/2 ONLY EFFECTIVE VITERBI SET TO MANUAL	
B09	AD VCO TEST	**0000** 0001 0002 0003 0004 0005 0006	**OFF** 32/TST 32/NOR 44/TST 44/NOR 48/TST 48/NOR	SELECT THE ADJUSTMENT MODE OF SAMPLING FREQUENCY OF AUDIO	
B10	SHUFFLE EE	0000 **0001**	ON **OFF**	SHUFFLE EE MODE ON/OFF	
B11	ERROR MODE	**0000** 0001	**FAST** SLOW	ERROR DISPLAY MODE “FAST” ERROR DISPLAY MODE “SLOW”	
B12	DIF FORM SEL	**0000** 0001 0002	**DIS** ENA1 ENA2	SELECT THE FORMAT OF DIF AUDIO	
B13	DIF AUD SEL	**0000** 0001	**DFLT** ZERO	SETTING OF RECORDING METHORD OF DIF AUDIO	
B14	SLOW AUDIO	**0000** 0001	**OFF** CUE	SELECT THE CONDITION OF AUDIO OUTPUT SIGNAL ON SLOW PLAYBACK MODE	

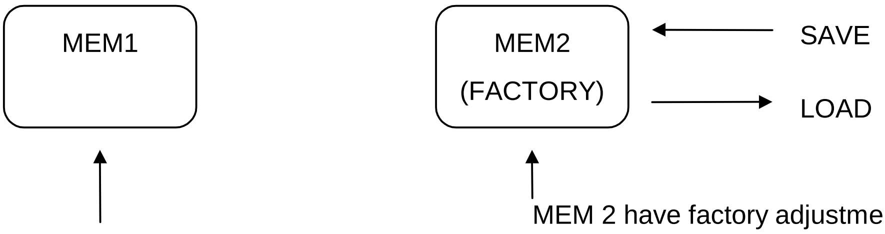
<<C00: REC ADJUST>>

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
C01	REC CURR L	0000 | **0108** | 0255	-128 | **-20** | 127	SETTING OF REC CURR (RP Lch)	
C02	REC CURR R	0000 | **0108** | 0255	-128 | **-20** | 127	SETTING OF REC CURR (RP Rch)	
C03	REC FREQ L	0000 | **0108** | 0255	-128 | **-20** | 127	SETTING OF REC FREQ (RP Lch)	
C04	REC FREQ R	0000 | **0108** | 0255	-128 | **-20** | 127	SETTING OF REC FREQ (RP Rch)	
C05	DEFAULT	0000 0001 0002	END LOAD SAVE		

[Operation of DEFAULT]

1. Set the cursor “*” to SAVE or LOAD and press the SET button, then execute the program.

NOTE: 1. The VTR have two memory area for the adjustment value as indicated as below.



MEM 2 have factory adjustment value.

MEM1 is always renewed follow the adjustment value on the RF and EQ adjustment menu.

2. We recommended the SAVE function does not use on the market, because the renewed adjustment value is stored to MEM 1 automatically.

<<D00: PB ADJUST>>

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
D01	RP PHASE L	0000 | **0055** | 0255	-128 | **-73** | 127	RP Lch PLAYBACK PHASE CORRECTION	
D02	RP MAG L	0000 | **0108** | 0255	-128 | **-20** | 127	RP Lch PLAYBACK OUTPUT GAIN CORRECTION	
D03	RP A L	0000 | **0160** | 0255	-128 | **42** | 127	RP Lch PLAYBACK OUTPUT DELAY A CORRECTION	
D04	RP B L	0000 | **0100** | 0255	-128 | **-28** | 127	RP Lch PLAYBACK OUTPUT DELAY B CORRECTION	
D05	RP PHASE R	0000 | **0055** | 0255	-128 | **-73** | 127	RP Rch PLAYBACK PHASE CORRECTION	
D06	RP MAG R	0000 | **0108** | 0255	-128 | **-20** | 127	RP Rch PLAYBACK OUTPUT GAIN CORRECTION	
D07	RP A R	0000 | **0160** | 0255	-128 | **42** | 127	RP Rch PLAYBACK OUTPUT DELAY A CORRECTION	
D08	RP B R	0000 | **0100** | 0255	-128 | **-28** | 127	RP Rch PLAYBACK OUTPUT DELAY B CORRECTION	
D11	PB PHASE L	0000 | **0055** | 0255	-128 | **-73** | 127	PB Lch PLAYBACK PHASE CORRECTION	
D12	PB MAG L	0000 | **0108** | 0255	-128 | **-20** | 127	PB Lch PLAYBACK OUTPUT GAIN CORRECTION	

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
D13	PB A L	0000 | **0160** | 0255	-128 | **42** | 127	PB Lch PLAYBACK OUTPUT DELAY A CORRECTION	
D14	PB B L	0000 | **0100** | 0255	-128 | **-28** | 127	PB Lch PLAYBACK OUTPUT DELAY B CORRECTION	
D15	PB PHASE R	0000 | **0055** | 0255	-128 | **-73** | 127	PB Rch PLAYBACK PHASE CORRECTION	
D16	PB MAG R	0000 | **0108** | 0255	-128 | **-20** | 127	PB Rch PLAYBACK OUTPUT GAIN CORRECTION	
D17	PB A R	0000 | **0160** | 0255	-128 | **42** | 127	PB Rch PLAYBACK OUTPUT DELAY A CORRECTION	
D18	PB B R	0000 | **0100** | 0255	-128 | **-28** | 127	PB Rch PLAYBACK OUTPUT DELAY B CORRECTION	
D21	DV PHASE L	0000 | **0090** | 0255	-128 | **-38** | 127	RP Lch PLAYBACK PHASE CORRECTION (FOR DV)	
D22	DV MAG L	0000 | **0200** | 0255	-128 | **72** | 127	RP Lch PLAYBACK OUTPUT GAIN CORRECTION (FOR DV)	
D23	DV A L	0000 | **0140** | 0255	-128 | **12** | 127	RP Lch PLAYBACK OUTPUT DELAY A CORRECTION (FOR DV)	
D24	DV B L	0000 | **0100** | 0255	-128 | **-28** | 127	RP Lch PLAYBACK OUTPUT DELAY B CORRECTION (FOR DV)	
D25	DV PHASE R	0000 | **0090** | 0255	-128 | **-38** | 127	RP Rch PLAYBACK PHASE CORRECTION (FOR DV)	

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
D26	DV MAG R	0000 | **0200** | 0255	-128 | **72** | 127	RP Rch PLAYBACK OUTPUT GAIN CORRECTION (FOR DV)	
D27	DV A R	0000 | **0140** | 0255	-128 | **12** | 127	RP Rch PLAYBACK OUTPUT DELAY A CORRECTION (FOR DV)	
D28	DV B R	0000 | **0100** | 0255	-128 | **-28** | 127	RP Rch PLAYBACK OUTPUT DELAY B CORRECTION (FOR DV)	
D30	DEFAULT	0000	END		
		0001	LOAD	LOAD THE FACTORY ADJUSTMENT VALUE	
		0002	SAVE	SAVE THE ADJUSTMENT VALUE	

<<E00: EQ ADJUST>>

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
E01	AUTEQ TARGET	0000 | **0170** | 0255	-128 | **42** | 127	QUANTITY OF EQUIVALLENT FOR EQ IC ADJ.	
E02	DELAY OFFSET	0000 | **0100** | 0255	-128 | **-28** | 127	EQ DELAY OFFSET ADJ.	
E03	COMP LEVEL	0000 | **0120** | 0255	-128 | **-8** | 127	EQ COMPALATOR LEVEL ADJ.	
E04	CLOCK PHASE	0000 | **0160** | 0255	-128 | **32** | 127	PLL CLOCK PHASE ADJ.	
E05	DEFAULT	0000 0001 0002	END LOAD SAVE	 LOAD THE FACTORY ADJUSTMENT VALUE SAVE THE ADJUSTMENT VALUE	

<<F00: VIDEO ADJUST>>

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
F01	Y/C AXIS OFS	0000 | **0128** | 0255	-128 | **0** | 127	SETTING THE OFFSET OF Y/C REC CHROMA PHASE.	
F02	CPS AXIS OFS	0000 | **0128** | 0255	-128 | **0** | 127	SETTING THE OFFSET OF COMPOSITE REC CHROMA PHASE.	
F03	CPS Y LEV	0000 | **0128** | 0255	-128 | **0** | 127	SETTING OF RECORDING Y LEVEL	
F04	CPS C LEV	0000 | **0128** | 0255	-128 | **0** | 127	SETTING OF RECORDING CHROMA LEVEL	
F05	Y CLAMP DC	0000 | **0128** | 0255	-128 | **0** | 127	SETTING VOLTAGE OF RECORDING Y CLAMP	
F06	REC PR BAL	0000 | **0128** | 0255	-128 | **0** | 127	SETTING OF REC Pr BALANCE LEVEL	
F07	REC PB BAL	0000 | **0128** | 0255	-128 | **0** | 127	SETTING OF REC Pb BALANCE LEVEL	
F08	PR BAL	0000 | **0128** | 0255	-128 | **0** | 127	SETTING OF Pr OUTPUT BALANCE	
F09	PB BAL	0000 | **0128** | 0255	-128 | **0** | 127	SETTING OF Pb OUTPUT BALANCE	
F10	BLACK LEV OF	0000 | **0128** | 0255	-128 | **0** | 127	SETTING OF SET UP LEVEL	

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	**Name**	**No.**	**Display**		
F11	V LEV OFST	0000 | **0128** | 0255	-128 | **0** | 127	SETTING OF VIDEO OUTPUT LEVEL	
F12	CHRO PHAS OF	0000 | **0128** | 0255	-128 | **0** | 127	SETTING HUE OFFSET BALUE OF VIDEO OUTPUT	
F13	C LEV OFST	0000 | **0128** | 0255	-128 | **0** | 127	SETTING OF PLAYBACK CHROMA LEVEL	
F17	EE CLAMP DC	0000 | **0208** | 0255	-128 | **80** | 127	SETTING OF CLAMP DC ON EE MODE	
F18	VV CLAMP DC	0000 | **0216** | 0255	-128 | **88** | 127	SETTING OF CLAMP DC ON VV MODE	
F19	V SETUP	0000 **0001**	OFF **ON**	Select the display V IN SET UP and V OUT SET UP on the SET UP menu	
F30	DEFAULT	0000 0001 0002	END SAVE LOAD	LOAD THE FACTORY ADJUSTMENT VALUE SAVE THE ADJUSTMENT VALUE	

<<F80: TBC ADJUST>>

ITEM		SETTING VALUE		CONTENTS OF SETTING and ADJUSTMENT	Remark
No.	**Name**	**No.**	**Display**		
F81	V LEV ENA	0000 **0001**	OFF **ON**	VALID / INVALID SELECTION OF VIDEO LEVEL FOR SET UP MENU “05 : VIDEO LEVEL”	
F82	STUP LEV ENA	0000 **0001**	OFF **ON**	VALID / INVALID SELECTION OF SET UP LEVEL FOR SET UP MENU “06 : SET UP LEVEL”	
F83	HUE ENA	0000 **0001**	OFF **ON**	VALID / INVALID SELECTION OF HUE FOR SET UP MENU “07 : HUE”	
F84	C LEV ENA	0000 **0001**	OFF **ON**	VALID / INVALID SELECTION OF CHROMA LEVEL FOR SET UP MENU “ 08 : CHROMA LEVEL “	
F85	VIDEO PHASE	0000 | **0128** | 0255	-128 | **0** | 127	SETTING OF VIDEO PHASE	
F86	DEFAULT	0000 0001 0002	END LOAD SAVE	LOAD THE FACTORY ADJUSTMENT VALUE SAVE THE ADJUSTMENT VALUE	

3. DIAG MENU OPERATION
(Display procedure of Hour Meter and Software Version)

- Display the Software version
- Display the Hour Meter

The units system software version display and hour meter displays can be viewed on the DIAG menu.

<To transfer from a Normal mode to the DIAG mode>

(1). Keep pressing EJECT button, set the [LOCAL/MENU/REMOTE] switch to ” MENU “ position on the front panel, then Hour Meter information appear on screen.

(2). For select the item on Hour Meter display, press UP (FF) button to move down the cursor (*) and press DOWN(REW) button to move up the cursor (*).

<<Hour Meter Display>>

```
DIAG-MENU HOUR METER

*  H0   OPERATION       10000H
   H1   DRUM RUN        10000H
   H2   TAPE RUN        10000H
   H3   THREADING       10000T
```

Counter Display also displayed item number and hour of Hour Meter information as indicated as below

(e.g.) H0 00001

<<Version Display>>

```
DIAG-MENU-VERSION
<NTSC>
   IF              1.00-00-0.00
   AV-SYSCON       1.00-00-0.00
   SBC             1.00-00-0.00
   CYLINDER        1.00-00-0.00
   REEL            1.00-00-0.00
   END
```

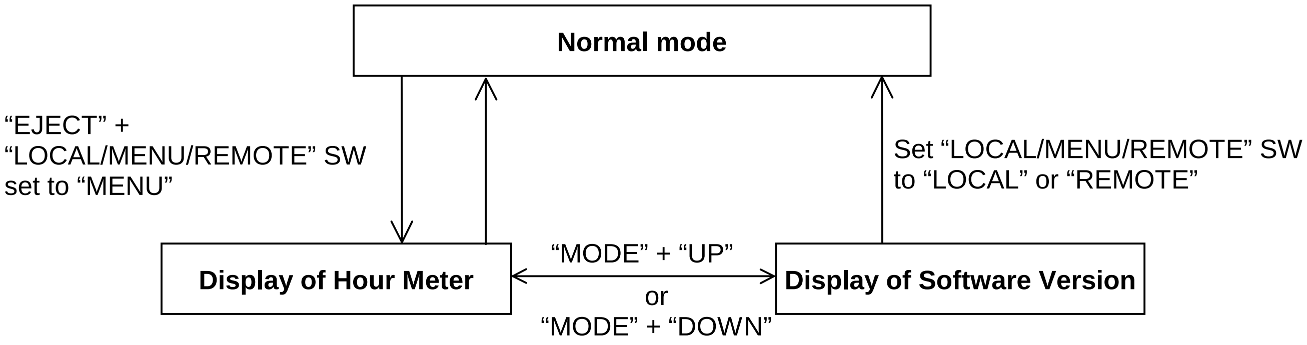
Software version number of FRONT displayed on the Counter display as indicated as below.

(e.g.) 2.00 - 006

<To display the software version>

(1). Press “MODE” + ”UP” or “MODE” + “DOWN” button.
The display changes to version from hour meter.

[Display Mode]


Normal mode
“EJECT” + “LOCAL/MENU/REMOTE” SW set to “MENU”
Set “LOCAL/MENU/REMOTE” SW to “LOCAL” or “REMOTE”
Display of Hour Meter
“MODE” + “UP” or “MODE” + “DOWN”
Display of Software Version

4. HOW TO RESET THE HOUR METER

1. Make an Eject condition.
2. Set the bit 2 of DIP SW 60902 on AV SYSCON P.C.Board to ON position.
3. Display the Hour Meter information on screen.
4. Set cursor “*” to required item for reset (item H1 to H3).
   NOTE: The Hour Meter can reset individually, which are DRUM RUN, TAPE RUN and THREADING.
5. Press the reset button, then appeared message as indicated as below.

< In case of select H1:DRUM RUN >

```
      HOUR NETER INIT SET
       DRUM RUN       OK?


   YES <STOP> / NO <STILL>
```

❖ When press the "STOP" button, then execute the reset function.
When press the "STILL" button, then cancel the reset command.

Details of the hour meter display are given below.

Item		Data	Description
No.	Display	Display	
H0	OPERATION	00000H ┆ 99999H	The period of time during which the power has been supplied since it was turned on is displayed in 1-hour increments.
H1	DRUM RUN	00000H ┆ 99999H	The period of time during which the drum has been rotation is displayed in 1-hour increments.
H2	TAPE RUN	00000H ┆ 99999H	The tape travel duration in the fast forward, rewind, play, search (JOG, VAR, SHTL), recording or editing mode (but not in the STILL mode with JOG, VAR and SHTL) is displayed in 1-hour increments.
H3	THREADING	00000H ┆ 99999H	The number of times the tape has been threaded or unthreaded is displayed in 1-time increments.

5.FLASH ROM VERSION UP PROCEDURE

1. FLASH ROM VERSION UP REQUIREMENT.
   - Flash rom version up software (VFK1248A)
   - Rom Rewriter (VFK1304A)
   - WINDOWS Ver. 3.1 or WINDOWS 95 built in personal computer
   - RS-232C cable (cross)

   Note: • The VFK1304A is desighed cross type specification of 9P RS232C cables.
   • If you want to use the RS232C straight cables, please remove the resistor R3 and R4. And those resistors are install to pattern of R1 and R2.

2. INSTALL THE FLASH ROM VERSION UP SOFTWARE
   - Copy the following files to WINDOWS Ver. 3.1 or WINDOWS 95 built in personal computer.

     VSI2312A.EXE (PROGRAM FILE)
     VSI2312A.INI (INITIAL FILE)

3. LOADING METHOD OF FLASH ROM VERSION UP SOFTWARE
   1) When using the WINDOWS Ver. 3.1 built in personal computer.
      - Load the file manager and double click the VSI2312A.EXE file.
      - Resistor the VSI2312A.EXE file to icon and double click it.
   2) When using the WINDOWS 95 built in personal computer.
      - Load the explorer and double click the VSI2312A.EXE file.
      - Make the short cut of VSI2312A.EXE file and double click it.

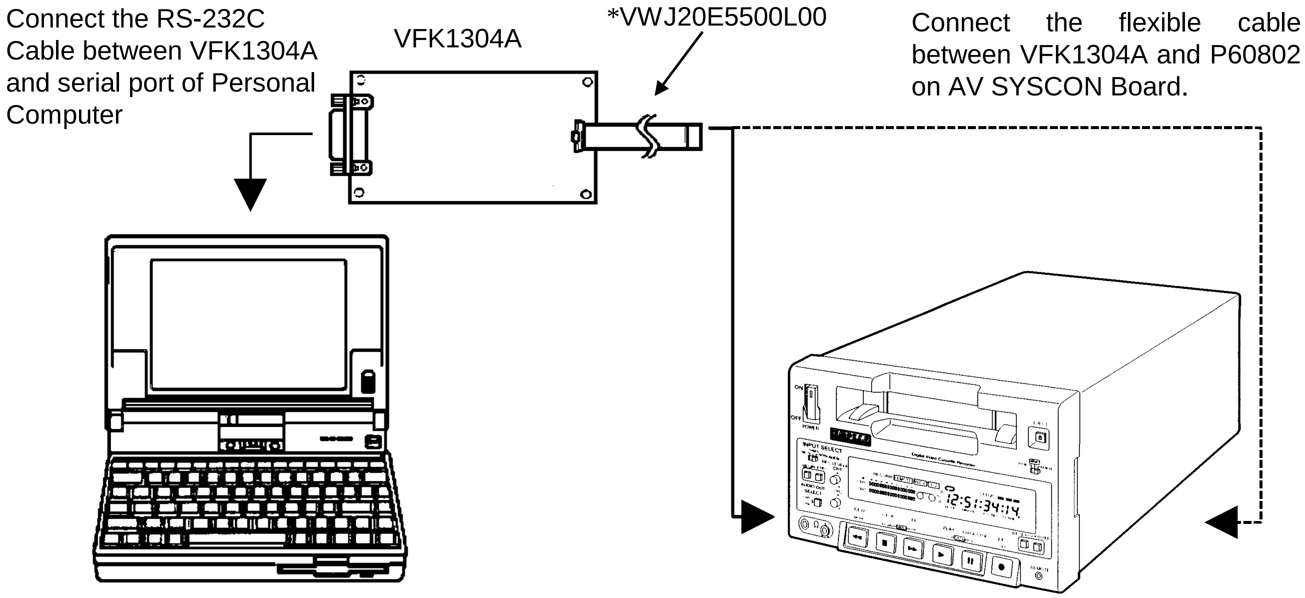
4. CONNECTION OF ROM REWRITER.
   Please connect the Rom Rewriter after turn off the power switch on AJ-D250.

Caution

--Additional Preparation--

Please disconnect the flexible cable of the P1101 connector on the AV SYSCON C.B.A..

Also, be careful about disconnected flexible cable does not touch to the Print Circuit boards or Chassis of the unit.



Connect the RS-232C Cable between VFK1304A and serial port of Personal Computer

Connect the flexible cable between VFK1304A and P60802 on AV SYSCON Board.

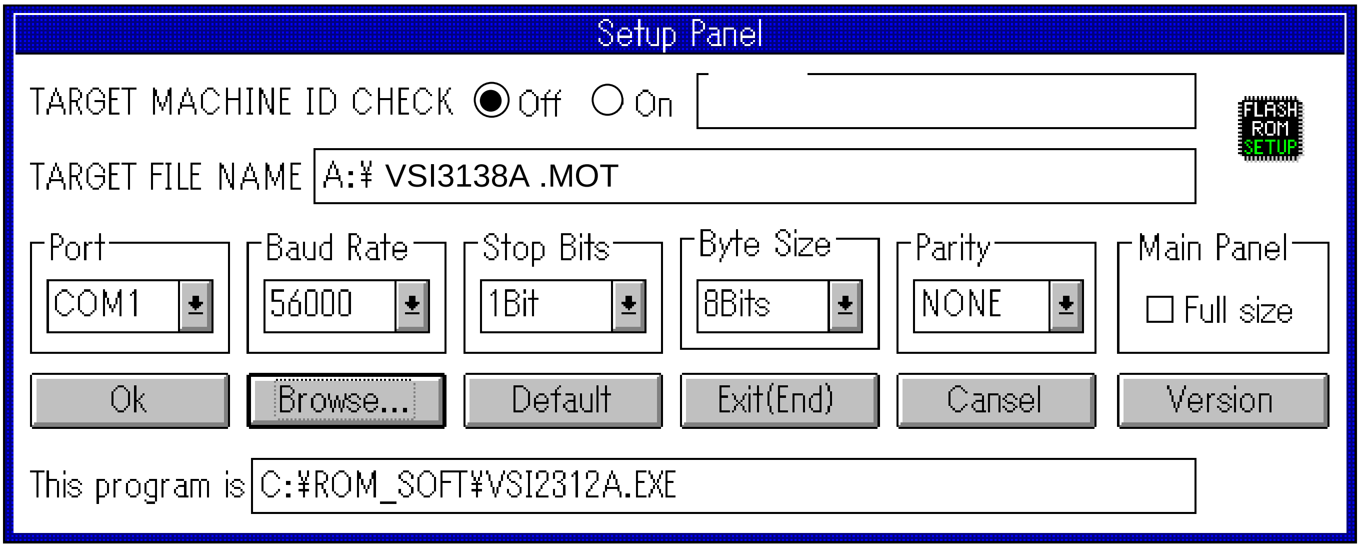
***NOTE :** The flexible cable (Part No.VWJ20E5500L00) included VFK1304. But it can be ordered for spare parts.

5. FLASH ROM VERSION UP PROCEDURE

(1) Connect the Rom Writer (VFK1304A) to D250 and personal computer after turn off the power switch on AJ-D250

(2) Set the pin 1 and 2 of Dip Switch on the P.C.Board (VFK1304A) to ON position.

(3) Load the flash rom version up software. Then the following window is opened.



TARGET MACHINE ID CHECK ● Off ○ On

TARGET FILE NAME A:¥ VSI3138A .MOT

Port: COM1

Baud Rate: 56000

Stop Bits: 1Bit

Byte Size: 8Bits

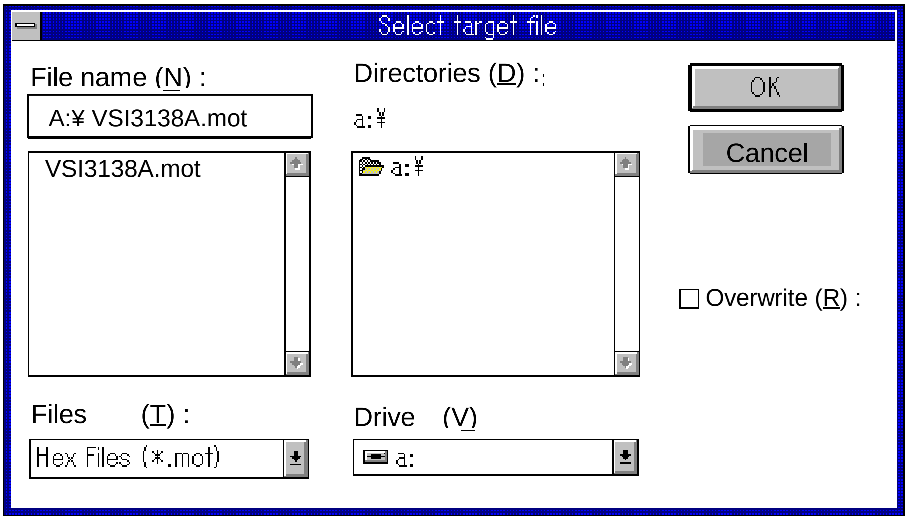
Parity: NONE

Main Panel: ☐ Full size

This program is C:¥ROM_SOFT¥VSI2312A.EXE

(4) Set the following setting on the Set Up Panel. Please type capital letter.

- TARGET MACHINE ID CHECK ---> OFF
- TARGET FILE NAME ---> Set the new software file name with full pass or click the Browse button and select the new file. (When click the Browse button, the following window is opened.)
- Port ---> Set the personal computer COM port No.
- Baud Rate ---> Baud Rate can be set 56000 and 19200 only. In case of set to 19200, set the pin 2 of Dip-Switch to OFF position on the P.C.Board (VFK1304A).



File name (N) : A:¥ VSI3138A.mot

VSI3138A.mot

Directories (D) : a:¥

a:¥

Files (T) : Hex Files (*.mot)

Drive (V) a:

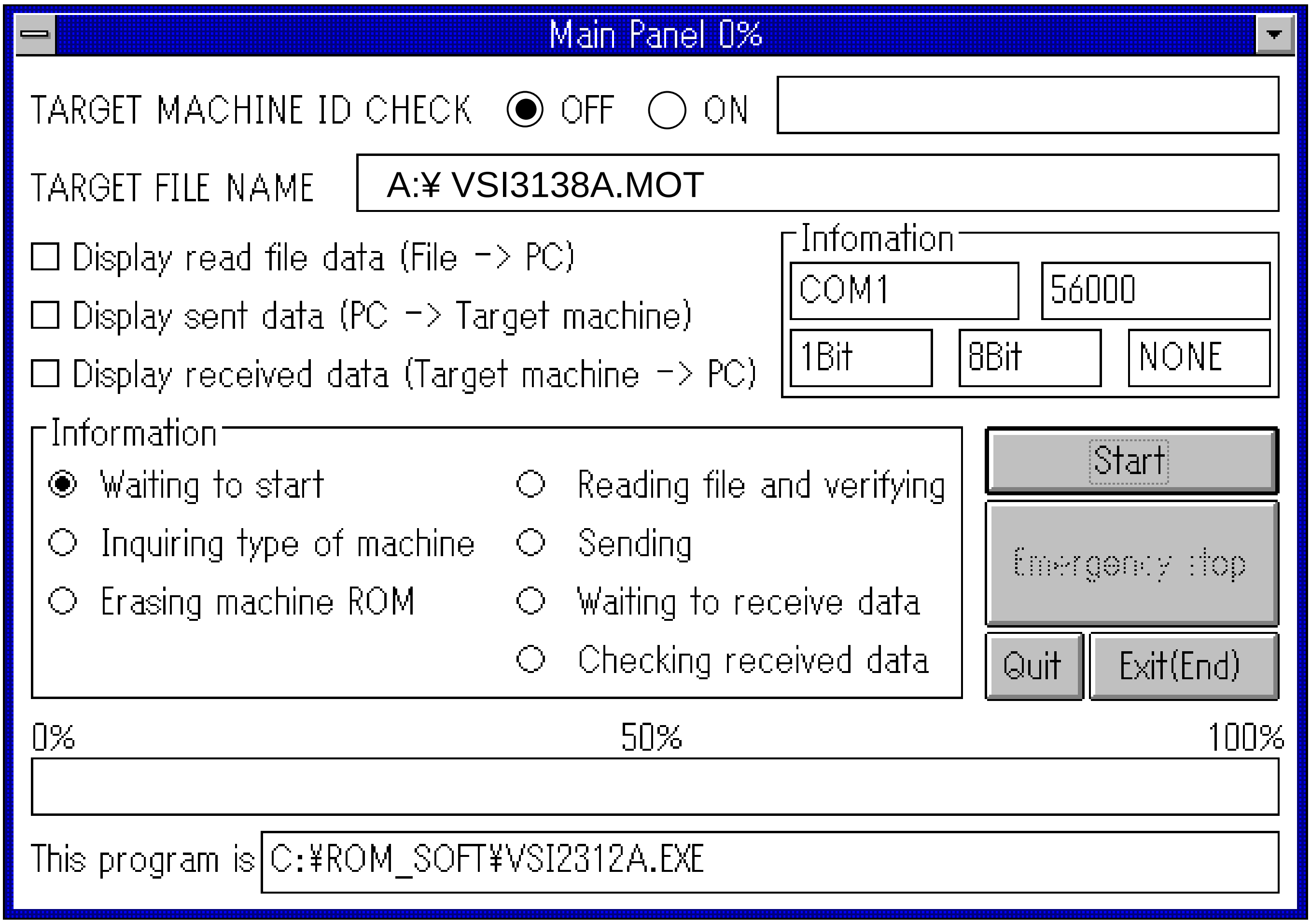
☐ Overwrite (R) :

Note: AJ-D250 can be version up AV SYSCON and IF software by this FLASH ROM version up software. Please execute version up individually AV SYSCON and IF.

(5) Set the Main Panel setting and then click the OK button. Main Panel is opened.

- Main Panel ---> When select the full size of Main Panel, the following window is opened. Full size Main Panel can indicate the detail information of machine status.

However it takes more time to complete the version up at the full size main Panel in


Main Panel 0%

TARGET MACHINE ID CHECK ● OFF ○ ON

TARGET FILE NAME A:¥ VSI3138A.MOT

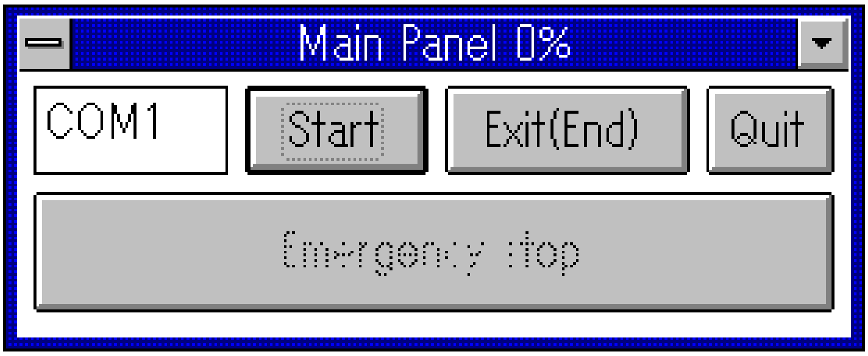
☐ Display read file data (File -> PC)
☐ Display sent data (PC -> Target machine)
☐ Display received data (Target machine -> PC)

Infomation: COM1 | 56000 | 1Bit | 8Bit | NONE

Information
● Waiting to start
○ Inquiring type of machine
○ Erasing machine ROM
○ Reading file and verifying
○ Sending
○ Waiting to receive data
○ Checking received data

This program is C:¥ROM_SOFT¥VSI2312A.EXE

- Main Panel ---> When select the small size of Main Panel, the following window is opened.


Main Panel 0%

COM1

We recommend the Main Panel setting to full size.

(6) Turn on the power switch on AJ-D250. And confirm that the LCD is displayed abnormal. (It only occurred version up side of VTR.)

(7) If the LCD is displayed normally, if occurred connection error.
Please confirm the connection between AJ-D250, rom rewriter and personal computer after turn off the power switch on AJ-D250.

(8) Click the OK button on the Main Panel. Rewrite the new software to flash rom after erase the flash rom. When you selected the full size Main Panel, you can confirm the detail information of machine status. When you selected the small size Main Panel, you can confirm the machine status (percentage) at title bar.

Note: • It takes about 1 minute to erase flash memory.

(9) In case of no erasing or no writing when “Inquiring type of machine” on the full size Main Panel, check the RS-232C communication or TARGET MACHINE TYPE.

(10) After finish the version up, please confirm the display of AV STS software version on the LCD. Turn the power switch to off and disconnect the rom rewriter (VFK1304A) from the D250.

6. ERROR MESSAGES

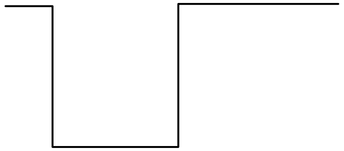
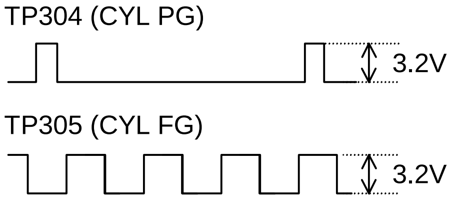
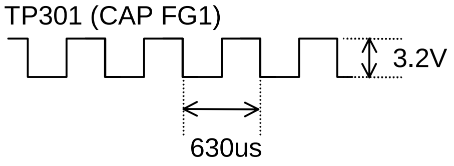
When one of the error numbers appears on the counter display, the VTR is set to the auto OFF mode (stop).

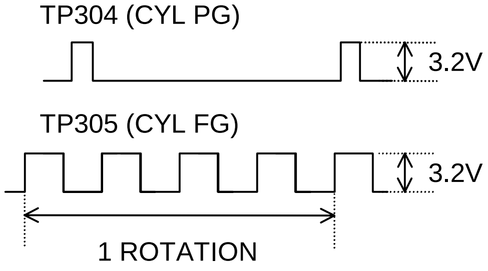
NOTE: Error number E-00, E-01 and E-09, which are indicated as warning condition to VTR. VTR operation is continued.

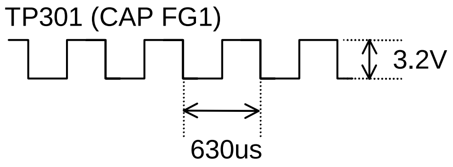
Error No.	Details of Error	VTR Operation
E-00	Appears when the servo fails to lock 3or more seconds. When T&S&R is selected as the SETUP menu item No.001 setting, “SERVO NOT LOCKED” is display on the third line (line where the remaining tape amount is indicated) of the monitor screen.	CONTINUATION
E-01	Appears when there is no head output for one or more seconds (due to clogging, etc.). “L” is displayed on the first line (counter line) of the monitor screen. When T&S&R is selected as the SETUP menu item No.001 setting, “LOW RF” is display on the third line (line where the remaining tape amount is indicated) of the monitor screen.	CONTINUATION
E-09	Appears when there is no head output for one or more seconds (due to clogging, etc.). “N” is displayed on the first line (counter line) of the monitor screen. When T&S&R is selected as the SETUP menu item No.001 setting, “NO RF” is display on the third line (line where the remaining tape amount is indicated) of the monitor screen. When all the following conditions are met, the part of the tape is recognized as a blank. ● No output from any of the heads ● Playback data can not be read ● NO CTL signal	CONTINUATION
E-11	The reel base, which operates in line with the size of the tape has been locked up for 2.5 or more seconds.	STOP
E-21	Four or more 4 seconds have elapsed after the cassette was instead but the cassette is not lowered down inside the unit. Alternatively, 4 or more seconds have elapsed after the eject operation was initiated but the cassette is not ejected.	STOP
E-31	The loading operation is not completed within 4 seconds.	STOP
E-32	The unloading operation is not completed within 4 seconds.	STOP
E-41	The FG (rotational speed) signal is not output from the cylinder motor.	STOP
E-42	The PG (phase speed) signal is not output from the cylinder motor.	STOP
E-43	The cylinder motor speed is abnormally high.	STOP
E-44	The cylinder motor speed is abnormally low.	STOP

Error No.	Details of Error	VTR Operation
E-51	The FG (rotational speed) signal is not output from the capstan motor.	STOP
E-52	The capstan motor speed is abnormally high.	STOP
E-53	The capstan motor speed is abnormally low.	STOP
E-61	The supply reel motor has locked up.	STOP
E-62	The take-up reel motor has locked up.	STOP
E-63	The supply reel motor speed is abnormally high.	STOP
E-64	The take-up reel motor speed is abnormally high.	STOP
E-65	Abnormal tension has been detected.	STOP
E-66	At the tape start or end, the short FF or, REW operation does not stop even after 7 or more seconds.	STOP
E-67	A check sum error was detected in the serial data communication between the AV SYSCON and SERVO.	STOP
E-68	In serial data communication between the AV SYSCON and SERVO, the data was fixed at low or high and the absence of data was detected.	STOP
E-69	A communication error was detected in the serial data between the AV SYSCON and SERVO, when the power was turned on.	STOP
E-6B	This appears when there is a communication error between IF and AV SYSCON. There is a problem with the internal reference or external reference.	STOP
E-70	The fan motor has stopped "S" is displayed on the first line (counter line) of the monitor screen. When T&S&R is selected as the SETUP menu item No.001 setting, "FAN STOP" is display on the third line (line where the remaining tape amount is indicated) of the monitor screen. When about an hour elapses, the unit is shut down automatically.	STOP ↓ Forced POWER OFF
E-72	Trouble in the solenoid drive circuitry was detected.	STOP
E-73	Trouble in the cleaning solenoid drive circuitry was detected.	STOP

7. AUTO OFF Check Point Table (Part of SERVO)

Error Number	Check Point	
E-43 		Check Cylinder PG at pin 66 of IC2201 (TP304) Check Cylinder FG at pin 67 of IC2201 (TP305) [In case of fast rotation] ● Check Cylinder flexible cable, connectors. ● Check CYL_ERR (TP204) voltage. Normal Rotation : TP204 = about 1.6 V During Full Acceleration : TP204 = 0 V EJECT mode : TP204 = 3.2 V V REF (IC2506-47 pin) = about 1.6 V fix If above voltage is incorrect, servo board is not correct. [In case of FG is correct and PG is incorrect] PG signal flow is incorrect. (Cylinder >> SERVO >> Servo)
E-52		Check Capstan FG at TP301. ● Check acceleration command. Confirm the V REF (IC2503 - 47 pin) is about 1.6 V. Confirm the CAP_ERR (TP2203) voltage is about 1.0 V at STOP condition. → If it is incorrect, command signal flow is incorrect. ● Check the FG signal does not have noise. Check CAP_FG1,2 (TP301, 302) frequency is correspond with rotary speed. (about 1.58 kHz in REC/PB mode) → If it is incorrect, FG signal flow is incorrect.

E-44	Check that the tape is stick with the Cylinder. Check that the tape is stick with a part of the tape pass and it causes the high tension. In this case tape may brake the Cylinder rotation.  TP304 (CYL PG) 3.2V TP305 (CYL FG) 3.2V 1 ROTATION	Check Cylinder PGat pin 66 of IC2201 (TP304) Check Cylinder FG at pin 67 of IC2201 (TP305) [In case of FG is correct and PG is incorrect] PG signal flow is incorrect. (Cylinder >> Servo) [In case of both PG and FG are incorrect (Cylinder rotation is actually slow.)] (1) Check Cylinder Unit. Rotate the Cylinder in EJECT or UNLOAD condition. Check that the Cylinder smoothly rotate. If it is not smooth, the Cylinder unit is incorrect. (2) Check the rotary speed detection. Check that the CYL_FG_ (TP305) shows the pulse which is 4 pulses per rotation and the duty is 50 %, 0V/3.2V. If it is incorrect, FG signal flow is incorrect. (3) Check the Servo CPU outputs acceleration command. ● Check that acceleration voltage (less than 1.6 V) is output at CYL_ERR (TP204). ● Check that drive on signal which is 3.2 V at IC2506-49 pin. when it is 1.6 V, it is OFF mode. (4) Check the Reference voltage. Check that V REF (IC2506-47 pin) voltage is about 1.6 V. → If (3) or (4) is incorrect, surround circuit of CPU is incorrect. (5) Check that Power Supply voltage. Check that Drive IC voltage (VCC 3.2V : IC2506-54 pin) and Motor Drive voltage CYL_VM (IC2506-33 pin). The VM is positive voltage during Cylinder ON. → If it is correct, between Motor Drive and Cylinder is incorrect. Check connectors of Cylinder and Servo.

E-53	Check the tape is not stacked with the tape pass and tension is not high. Check the mechanical load of Capstan. 	Check Capstan FG at TP301. ● In case of the Capstan Motor overrunning even the message is too slow. The FG signal which is used to detect capstan speed is not supplied to the SERVO CPU. Check the frequency at CAP_FG1,2 (TP301, 302) is correspond with the rotary speed. (about 1.58 kHz, 0/3.2 V in REC/PB mode). Check the connectors of Capstan and Servo. ● In case of Capstan does not rotate. (1) Check the Servo CPU supplies the acceleration command. Check the V REF (IC2503 - 47 pin) is about 1.6V. Check the CAP_ERR (TP2203) is acceleration command. It is below than V REF voltage. If the capstan does not rotate, the CAP_ERR voltage should be 0 V. Check Drive ON signal (IC2503-49 pin) is 3.2V (rev) and 0V (fwd), 1.6 V (OFF). (2) Check the Power Supply voltage. Check the Drive IC power voltage (VCC 3.2V : IC2503 - 54 pin). Check Motor Drive voltage CAP_VM (IC2503 - 33 pin). (3) Check the Drive signal is supplied to Capstan motor. Check the connectors of Capstan and Servo. If above conditions are correct, motor or drive circuit is incorrect. (4) Check the TSR (IC2201 - 93 pin) and FRP (IC2201 - 84 pin) signals are inputted to CPU.

E-63		1. Check Reel FG waveform. Reel FG --- Refer to Reel FG Check 1 and Reel FG Check 2 Check the below signals input to Reel CPU ● S-Reel-FG (IC2101-1 & 8 pin) ● T-Reel-FG (IC2101-9 & 68 pin) ● S-Reel-FWD-L (IC2101-11 pin) ● T-Reel-FWD-L (IC2101-12 pin) [In case of abnormal condition] ● Check loosen of connector Servo board ● Reel FG Sensor, Reel Replacement 2. Check Reel Drive circuit. TP2403 (S REEL ERR) and TP2543 (T REEL ERR) on SERVO board --- less than 0.5 V
E-64		1. Check Reel FG waveform. Reel FG --- Refer to Reel FG Check 1 and Reel FG Check 2 Check the below signals input to Reel CPU ● S-Reel-FG (IC2101-1 & 8 pin) ● T-Reel-FG (IC2101-9 & 68 pin) ● S-Reel-FWD-L (IC2101-11 pin) ● T-Reel-FWD-L (IC2101-12 pin) [In case of abnormal condition] ● Check loosen of connector Servo board ● Reel FG Sensor, Reel Replacement 2. Check Reel Drive circuit. TP2403 (S REEL ERR) and TP2543 (T REEL ERR) on SERVO board --- less than 0.5 V

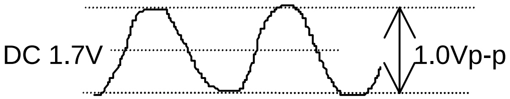
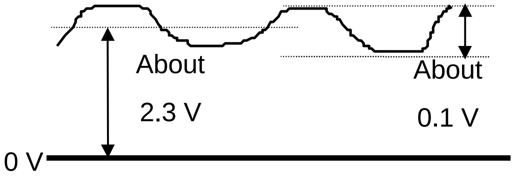
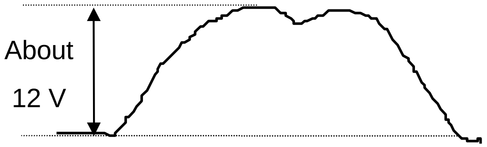
E-61 E-62		1. Confirm the Reel offset adjustment. 2. Confirm the Reel Torque adjustment. 3. Confirm the Tension. 4. Check the Capstan is operated correctly (CAP mode). 5. Check the tape is beat 6. Check loosen of connector. 7. Check the Reel-Brake Solenoid are operated correctly.
E-66	Check the problem occurred at tape beginning or tape, or other portion.  ● FG1 (IC2901 - 1 & 7 pin) ● FG2 (IC2904 - 1 & 7 pin)	1. Check Reel FG Reel FG --- Refer to Reel FG Check 1 and Reel FG Check 2 [In case of abnormal condition] ● Check loosen of connector Servo board ● Reel FG Sensor, Reel Replacement 2. Check transparent tape detection. [In case of abnormal condition] ● Check loosen of connector Servo board ● Replace sensors. 3. Check the tape is not bent.

Fig 1 REEL Position Detect		Rotate the REEL motor in EJECT mode and check the following waveform. Servo board P2035 - 16 TH1+ 14 TH1- 12 TH2+ 10 TH2- 8 TH3+ 6 TH3- P2034 - 16 SH1+ 14 SH1- 12 SH2- 10 SH3+ 8 SH3+ 6 SH3-
Fig. 2 REEL Drive Waveform		Select T or S_REEL_TRQ on the MENU, and rotate the REEL and confirm the following waveform is like Fig. 2. Servo board P2035 - 13 TM3 9 TM1 19 TM1 13 SM3 9 SM1 17 SM2